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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/263,358 | 03/05/1999 | DENNIS D. FERGUSON | TAN98-24 | 1714 |
| 21005 7590 07/26/2007 HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133 | | | EXAMINER GARY, ERIKA A | |
| | | | ART UNIT 2617 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/263,358

Applicant(s)

FERGUSON ET AL.

Examiner

Erika A. Gary

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-10 and 12 is/are rejected.
- 7) ☒ Claim(s) 5-7 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/5/99 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: at the end of step (f), there should be a semicolon after "segments". Appropriate correction is required.
2. Claim 2 is objected to because of the following informalities: claim 2 recites an additional step (i) but there is already a step (i) in claim 1. Appropriate correction is required.
3. Claim 10 is objected to because of the following informalities: in step (g), "divides" should be "dividing". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 8 recites the limitation "step (k)" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. Claim 8 depends upon claim 1 so it is not clear if the claim dependency is incorrect or if step (k) was meant to be one of steps (a) through (i) in claim 1.
6. Claim 9 recites the limitation "step (k)" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim. Claim 9 depends upon claim 1 so it is

Art Unit: 2617

not clear if the claim dependency is incorrect or if step (k) was meant to be one of steps (a) through (i) in claim 1.

7. Claim 12 recites the limitation "step (i)" in line 1 of the claim; and "the number of bits" in line 5. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Duxbury, US Patent Number 6,460,154 (hereinafter Duxbury).

Regarding claims 1 and 10, Duxbury teaches method for communication of data between a transmitter and a receiver over one or more communication channels, the data being provided in a frame, the method comprising the steps of: at the transmitter: (a) dividing the frame into segments according to an optimum segment size; (b) combining multiple segments into a segment block; (c) applying a forward error correction encoding process to the segment block to produce a forward error correction block; (d) sending the forward error correction block over a communication channel; at the receiver: (e) applying a forward error correction decoding process on the forward

Art Unit: 2617

error correction block to produce a received block; (f) dividing the received block into segments; (g) determining if any segment was received in error; (h) correcting the error according to the forward error correction encoding, if possible; and (i) requesting retransmission only of the segment received in error and unable to be corrected [abstract; fig. 1-3; col. 2: line 57 – col. 3: line 25; col. 3: line 55 – col. 4: line 4; col. 6: lines 48-54].

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duxbury.

Regarding claims 2-3, Duxbury does not specifically teach inserting a checksum or position number into the segments to enable identification of erroneously received segments or identify a position of a segment within a frame. However, the Examiner takes Official Notice that these features are well known in the art. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Duxbury to include these features in order to improve error correction.

Regarding claim 4, Duxbury does not specifically teach sending a forward error correction block over multiple distinct communication channels. However, the Examiner

Art Unit: 2617

takes Official Notice that this feature is well known in the art. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Duxbury to include this feature in order to ensure receipt of the forward error correction block by sending it over multiple channels.

Allowable Subject Matter

12. Claims 5-7 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ujiie, US Patent Number 5,161,194;

Weerackody et al., US Patent Number 6,157,612.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 571-272-7841. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EAG
July 10, 2007


ERIKA A. GARY
PRIMARY EXAMINER